

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1 – 37. (Cancelled)

38. (Previously Presented) A medical device for use in a body lumen, comprising: a self-expanding body formed from struts having a compressed state and an expanded state; the body including a cold formed nickel-titanium alloy having a transformation temperature greater than a mammalian body temperature, wherein the nickel-titanium alloy exhibits linear pseudoelasticity regardless of stress applied to the body; and a sheath at least partially enclosing the body in the compressed state.

39. (Previously Presented) The medical device of claim 38, wherein the transformation temperature includes at least one of A.sub.s and A.sub.f that is >37 degrees C.

40. (Previously Presented) The medical device of claim 38, wherein the body has been heat treated and a hysteresis curve of the nickel-titanium alloy does not include a stress plateau.

41. (Previously Presented) The medical device of claim 38, wherein the nickel-titanium alloy is pseudo elastic when stressed without onset of stress-induced martensite.

42. (Previously Presented) The medical device of claim 38, wherein the body assumes a shape imparted by cold forming.

43. (Previously Presented) The medical device of claim 42, wherein the cold forming occurs below the recrystallization temperature of the alloy.

44. (Previously Presented) The medical device of claim 38, wherein the body includes a thin wall.

45. (Previously Presented) The medical device of claim 38, wherein the nickel-titanium alloy includes a ternary element selected from the group of chemical elements consisting of: palladium, platinum, chromium, iron, cobalt, vanadium, manganese, boron, copper, aluminum, tungsten, tantalum, or zirconium.

46. (Previously Presented) The medical device of claim 38, wherein the nickel-titanium alloy does not undergo a phase transformation when the body is stressed.

47. (Previously Presented) A medical device for use in a body lumen, comprising: a self-expanding body formed from struts; the body including a cold formed nickel-titanium alloy, wherein the nickel-titanium alloy is in a martensitic phase when the body is stressed into a first shape and when the body is stress relieved to a second shape, and wherein the nickel-titanium alloy has a transformation temperature >37 degrees C; and a sheath at least partially enveloping the body in its first shape.

48. (Previously Presented) The medical device of claim 47, wherein the nickel-titanium alloy does not include stress-induced martensite in the first shape, the second shape, and transitioning therebetween.

49. (Previously Presented) The medical device of claim 47, wherein a stress-strain hysteresis curve for the nickel-titanium alloy does not include a stress plateau.

50. (Previously Presented) The medical device of claim 47, wherein the body includes a thin wall and includes an opening therethrough.

51. (Previously Presented) The medical device of claim 47, wherein the body includes low temperature heat treating.

52. (Previously Presented) The medical device of claim 51, wherein the heat treating includes heating the alloy up to 350 degrees C. inclusive for up to five minutes inclusive.

53. (Previously Presented) A method of providing a medical device for use in a body lumen, comprising: providing struts including a cold formed nickel-titanium alloy; setting a transformation temperature >37 degrees C.; cold forming the struts into a body having a shape; stressing the body into a first shape wherein the nickel-titanium alloy is in a martensitic phase; providing a sheath; disposing the body in the first shape at least partially inside the sheath; and deploying the body from the sheath to stress relieve the body into a second shape, wherein the nickel-titanium alloy remains in the martensitic phase.

54. (Previously Presented) The method of claim 53, wherein the method includes stressing the body into the first shape and at least partially withdrawing the body into the sheath.

55. (Previously Presented) The method of claim 53, wherein stressing the body into the first shape does not create stress-induced martensite in the alloy.

56. (Previously Presented) The method of claim 53, wherein the transformation temperature includes $A_{s} > 37$ degrees C.

57. (Previously Presented) The method of claim 53, wherein the nickel-titanium alloy exhibits linear pseudoelasticity when stressed.

58. (Previously Presented) The method of claim 53, wherein the nickel-titanium alloy includes a ternary element selected from the group of chemical elements consisting of: palladium, platinum, chromium, iron, cobalt, vanadium, manganese, boron, copper, aluminum, tungsten, tantalum, or zirconium.